Colas, J.F., Launay, J.M., Vonesch, J.L., et al. Serotonin synchronises convergent extension of ectoderm with morphogenetic gastrulation movements in *Drosophila*. Mech Dev 87: 77-91, 1999a.

Colas, J.F., Launay, J.M., Maroteaux, L. Maternal and zygotic control of serotonin biosynthesis are both necessary for *Drosophila* germband extension. Mech Dev 87: 67-76, 1999b.

Colas, J.F. and Schoenwolf, G.C. Towards a cellular and molecular understanding of neurulation. Dev Dyn 221: 117-145, 2001.

Dahmann, C. and Basler, K. Compartment boundaries: At the edge of development. Trends Genet 15: 320-326, 1999.

Day, R.M., Agyeman, A.S., Segel, M.J., et al., Serotonin induces pulmonary artery smooth muscle cell migration. Biochem Pharmacol 71: 386-397, 2006.

Diav-Citrin, O., Shechtman, S., Weinbaum, D., et al. Paroxetine and fluoxetine in pregnancy: A prospective, multicenter, controlled observational study. Br J Clin Pharmacol 66: 695-705, 2008.

Diaz et al, 5 HT 2b Receptors are Required for Serotonin Selective Antidepressant Actions. Mol Psychiatry 17(2):154-63, 2012.

Dlugosz, L.J., Byers, T., Msall, M.E., et al., Relationships between laterality of congenital upper limb reduction defects and school performance. Clin Pediatr 27: 319-324, 1988.

Domar, A.D., Moragianni, V.A., Ryley, D.A., Urato, A.C. The risks of selective serotonin reuptake inhibitor use in infertile women: A review of the impact on fertility, pregnancy, neonatal health and beyond. Human Reprod 28: 160-171, 2013.

Doudney, K. and Stanier, P. Epithelial cell polarity genes are required for neural tube closure. Am J Med Genet 135C: 42-47, 2005.

Eisenberg, L.M. and Markwald, R.R. Molecular regulation of atrioventricular valvuloseptal morphogenesis. Circ Res 77: 1-6, 1995.

Feldkamp, M.L., Carey, J.C., Sadler, T.W. Development of gastroschisis: Review of hypotheses, a novel hypothesis, and implications for research. Am J Med Genet Part A 143A: 639-652, 2007.

Fenstermaker, A.G., Prasad, A.A., Bechara, A., et al. Wnt/planar cell polarity signaling controls the anterior-posterior organization of monoaminergic axons in the brainstem. J Neuro 30: 16053-16064, 2010.

Ferencz, C., Rubin, J.D., McCarter, R.J., et al. Congenital heart disease: Prevalence at livebirth. The Baltimore-Washington Infant Study. Am J Epidemiol 121: 31-36, 1985.

Fukumoto, T., Blakely, R., Levin, M. Serotonin transporter function is an early step in left-right patterning in chick and frog embryos. Dev Neurosci 27: 349-363, 2005a.

Fukumoto, T., Kema, I.P., Levin, M. Serotonin signaling is a very early early step in patterning of the left-right axis in chick and frog embryos. Curr Biol 15: 794-803, 2005b.

Gebbia, M., Ferrero, G.B., Pilia, G>, et al. X-linked situs abnormalities result from mutations in ZIC3. Nature Genet 17: 305-308, 1997.

Gilbert, J.A., Roach, H.I., Clarke, N.M.P. Histological abnormalities of the calcaneum in congenital talipes equinovarus. J Orthop Sci 6: 519-526, 2001.

Gill, R.K., Shen, L., Turner, J.R., et al., Serotonin modifies cytoskeleton and brush-border membrane architecture in human intestinal epithelial cells. Am L Physiol Gastrointest Liver Physiol 295: G700-G708, 2008.

Gormley, J.P. and Nascone-Yoder, N.M. Left and right contributions to the *Xenopus* heart: Implications for asymmetric morphogenesis. Dev Genes Evol 213: 390-398, 2003.

Grobstein, C. Mechanisms of organogenetic tissue interactions. Natn Cancer Inst Monog 26: 279-299, 1967.

Gurnett, C.A., Alaee, F., Kruse, L.M., et al. Asymmetric lower limb malformations in individuals with homeobox *PITX1* gene mutation. Am J Hum Genet 83: 616-622, 2008.

Gustafson, T. and Toneby, M. On the role of serotonin and acetylcholine in sea urchin morphogenesis. Exp Cell Res 62: 102-117, 1970.

Hall, B.K. Tissue interactions and the initiation of osteogenesis and chondrogenesis in the neural-crest derived mandibular skeleton of the embryonic mouse as seen in isolated murine tissues and in recombinations of murine and avian tissues. J Embryol Exp Morph 58: 251-264, 1980.

Hall, B.K. The induction of neural crest derived cartilage and bone by embryonic epithelia. An analysis of the mode of action of an epithelial-mesenchymal interaction. J Embryol Exp Morph 64: 305-310, 1981.

Hansson, S.R., Mezey, E., Hoffman, B.J. Serotonin transporter messenger RNA expression in neural crest-derived structures and sensory pathways of the developing rat embryo. Neurosci 89: 243-265, 1999.

Heinemann, M.K., Hanley, F.L., Van Praagh, S., et al. Total anomalous venous drainage in newborns with visceral heterotaxy. Ann Thoracic Surg 57: 88-91, 1994.

Henderson, D.J., Phillips, H.M., Chaudry, B. Vang-like and noncanonical Wnt signaling in outflow tract extension. Trends Cardiovasc Med 16: 38-45,2006.

Henderson, D.J. and Chaudhry, B. Getting to the heart of planar cell polarity signaling. Birth defects Res Part A 91: 460-467, 2011.

High, F.A., Jain, R., Stoller, J.Z., et al. Murine Jagged 1/Notch signaling in the second heart field orchestrates Fgf8 expression and tissue-tissue interactions during outflow tract development. J Clin Invest 119: 1986-1996, 2009.

Holtfreter, J. On mesenchyme and epithelia in inductive and morphogenetic processes. In: *Epithelial-Mesenchymal Interactions* ed. R. Fleischmajer and R.E. Billingham. Philadelphia and London, W.B. Saunders. P. 230-296, 1968.

Hutson, M.R. and Kirby, M.L. Neural crest and cardiovascular development: A 20 year perspective. Birth Defects Res Part C 69: 2-13, 2003.

Jiang, X., Iseki, S., Maxson, R.E., et al. Tissue origins and interactions in the mammalian skull vault. Dev Biol 241: 106-116, 2002.

Jiang, X., Rowitch, D.H., Soriano, P., et al. Fate of the cardiac neural crest. Development 127: 1607-1616, 2000.

Johnston, M.C. A radiographic study of the migration and fate of cranial neural crest cells in the chick embryo. Anat Rec 156:143-156, 1966.

Jollie, W.P. Development, morphology, and function of the yolk-sac placenta of laboratory rodents. Teratology 41: 361-381, 1990.

Julius, D. Livelli, T.J., Jessell, T.M., Axel, R. Ectopic expression of the serotonin 1c receptor and the triggering of malignant transformation. Science 244: 1057-1062, 1989.

Kawakami, M., et al, Novel Migrating mouse Neural Crest Cell Assay System Utilizing Po-Cre.EGFP Fluorescent Time-Lapse Imaging. BMC Dev Biol 11:68, 2011.

Keller, R., Shih, J., Moreno, C. Planar induction of convergence and extension of the neural plate by the organizer of *Xenopus*. Dev Dyn 193: 218-234, 1992.

Keller, R., Davidson, L., Edlund, A., et al. Mechanisms of convergence and extension by cell intercalation. Phil Trans Royal Soc London B: Biol Sci 355: 897-922, 2000.

Kelley, R.G., Brown, N.A., Buckingham, M.E., et al. The arterial pole of the mouse heart forms from fgf10-expressing cells in pharyngeal mesoderm. Dev Cell 1: 435-440, 2001.

Kibar, Z., Vogan, K.J., Groulx, N., et al. Ltap a mammalian homologue of drosophila strabismus/van gogh is altered in the mouse neural tube mutant loop-tail. Nat Genet 28: 101-110.

Kibar, Z., Torban, E., McDearmid, J.R., et al. Mutations in *VANGL1* Associated with neural-tube defects. N Engl J Med 356: 1432-1437, 2007.

Kibar, Z., Salem, S., Bosoi, C.M., et al. Contribution of *VANGL2* mutations to isolated neural tube defects. Clin Genet 80: 76-82, 2011.

Kirby, M.L. Hunt, P. et al., Abnormal patterning of the aortic arches does not evoke cardiac malformations. Dev Dyn 208:34-47.

Kirby, M.L. and Waldo, K.L. Neural crest and cardiovascular patterning. Circ Res 77: 211-215, 1995.

Kornum, J.B., Nielson, R.B., Pedersen, L., et al. Use of selective serotonin-reuptake inhibitors during early pregnancy and risk of congenital malformations: Updated analysis. Clin Epidemiol 2: 29-36, 2010.Malm, H., Artama, M., Gissler, M., Ritvanen, A. Selective serotonin reuptake inhibitors and risk for major congenital malformations. Obstet Gynecol 118: 111-120, 2011.

Komatsu, Y., Yu, P.B., Kamiya, N., et al. Augmentation of smad-dependent BMP signaling in neural crest cells causes craniosynostosis in mice. J Bone Miner Res 28: 1422-1433, 2013.

Kosaki, K and Casey, B. Genetics of human left-right axis malformations. Sem Cell Dev Biol 9: 89-99, 1998.

Kroeze, W.K., Kristiansen, K., Roth, B.L. Molecular biology of serotonin receptors structure and function at the molecular level. Curr Top Med Chem 2: 507-528, 2002.

Lambert, H.W. and Lauder, J.M. Serotonin receptor agonists that increase cyclic AMP positively regulate IGF-I in mouse mandibular mesenchymal cells. Dev Neurosci 21: 105-112, 1999.

Lambert, H.W., Weiss, E.R., Lauder, J.M. Activation of 5-HT receptors that stimulate the adenylyl cyclase pathway positively regulates IGF-I in cultured craniofacial mesenchyal cells. Dev Neurosci 23: 70-77, 2001.

Lauder, J.M. Neurotransmitters as growth regulatory signals: Role of receptors and second messengers. Trends in Neurosci 16: 233-240, 1993.

Lauder, J.M., Tamir, H., Sadler, T.W. Serotonin and morphogenesis: Sites of serotonin uptake and binding protein immunoreactivity in the midgestation mouse embryo. Development 102: 709-720, 1988.

Lauder, J.M., Wilkie, M.B., Wu, C., Singh, S. Expression of 5-HT_{2A}, 5-HT_{2B}, and 5-HT_{2C}, receptors in the mouse embryo. Int'l J Dev Neurosci 18: 653-662, 2000.

LeDouarin, N.M. "The Neural Crest." NewYork, Cambridge University Press. P. 57, 1982.

Lee, H.Y. and Nagale, R.G. Studies on the mechanisms of neurulation in the chick: Interrelationship of contractile proteins, microfilaments, and the shape of neuroepithelial cells. J Exp Zool 235: 205-215, 1985.

Lee, S.L., Wang, W.W., Finlay, G.A., Fanberg, B.L. Serotonin stimulates mitogen activated protein kinase activity through the formation of superoxide anion. Amer J Physiol 21: L282-L291, 1999.

Lee, S.L., Wang, W.W., Moore, B.J., Fanberg, B.L. Dual effects of serotonin on growth of bovine pulmonary artery smooth muscle cells in culture. Circ Res 68: 1362-1368, 1991.

Lei, Y.P. and Zhang, T. VANGL2 mutations in human cranial neural tube defects. N Engl J Med 362: 2232-2235, 2010.

Lenz, Thalidomide and congenital abnormalities. Lancet 1: 271-272, 1962.

Levin, M. Left-right asymmetry in embryonic development: A comprehensive review. Mech Dev 122: 3-25, 2005.

Levin, M. Buznikov, G.A., Lauder, J.M. Of minds and embryos: left-right asymmetry and the serotonergic controls of pre-neural morphogenesis. Dev Neurosci 28: 171-185, 2006.

Lockhart, M., Wurig, E., Phelps, A., Wessels, A. Extracellular matrix and heart development. Birth Defects Res Part A 91: 535-550, 2011.

Louik, C., Lin, A.E., Werler, M.M., et al. First-trimester use of selective serotonin-reuptake inhibitors and the risk of birth defects. N Engl J Med 356: 2675-2683, 2007.

Marcil, A., Dumontier, E., Chamberland, M., et al. *Pitx1* and *Pitx2* are required for development of hindlimb buds. Development 130: 45-55, 2003.

Markwald, R.R., Eisenberg, C., Eisenberg, L., et al., Epithelial-mesenchymal transformations in early avian heart development. Acta Anat 156: 173-186, 1996.

Marley, P.B., Robson, J.M., Sullivan, F.M. Embryotoxic and teratogenic action of 5-hydroxytryptamine: Mechanism of action in the rat. Br J Pharmac Chemother 31: 494-505, 1967.

Martinez-Frias, M.L., Urioste, M., Bermejo, E., et al. Primary midline developmental field. II. Clinical/epidemiological analysis of alteration of laterality (Normal body symmetry and asymmetry. Am J Med Genet 56: 382-388, 1995.

McBride, W.G. Thalidomide and congenital abnormalities. Lancet 2: 1358, 1961.

Merrill, A.E., Bochukova, E.G., Brugger, S.M., et al. Cell mixing at a neural crest-mesoderm boundary and deficient ephrin-Eph signaling in the pathogenesis of craniosynostosis. Human Molecular Genetics 15: 1319-1328, 2006.

Mineau-Hanschke, R. Hechtman, H.B., Shepro, D. Endothelial cell junctional integrity modulation by serotonin: An ultrastructural analysis. Tiss Cell 21: 161-170, 1989.

Mjaatvedt, C.H., Nakaoka, T., Moreno-Rodriguez, R. The outflow tract of the heart is recruited from a novel heart-forming field. Dev Biol 238: 97-109, 2001.

Moiseiwitsch, J.R.D. and Lauder, J.M. Serotonin regulates mouse cranial neural crest migration. Proc Natl Acad Sci 92: 7182-7186, 1995.

Morelli, S.H., Young, L., Reid, B., et al. Clinical analysis of families with heart, midline, and laterality defects. Am J Med Genet 101: 388-392, 2001.

Mori, A.D. and Bruneau, B.G. TBX5 mutations and congenital heart disease: Holt-Oram syndrome revealed. Curr Op Cardiol 19: 211-215, 2004.

Morriss-Kay, G.M. and Crutch, B. Culture of rat embryos with β-D-Xyloside: Evidence for a role for proteoglucans in neurulation. J Anat 134: 491-506, 1982.

Morriss-Kay, G.M. and Wilkie, A.O.M. Growth of the normal skull vault and its alteration in craniosynostosis: Insights from human genetics and experimental studies.

Murdoch, J.N., Doudney, K., Paternotte, C., et al., Severe neural tube defects in the loop-tail mouse result from mutation of Lpp1, a novel gene involved in floorplate specification. Hum Mol Genet 10: 2593-2601, 2001.

Murdoch, J.N., Henderson, D.J., Doudney, K., et al. Disruption of *scribble* (*Scrb1*) causes severe neural tube defects in the *circletail* mouse. Human Mol Genet 12: 87-98, 2003.

Nagale, R.G. and Lee, H.Y. Studies on the mechanism of neurulation in the chick: microfilament mediated changes in cell shape during uplifting of neural folds. J Exp Zool 213: 391-398, 1980.

Nakhai-Pour, H.R., Broy, P., Berard, A. Use of antidepressants during pregnancy and the risk of spontaneous abortion. CMAJ 2010. Doi:10.1503/cmaj.091208.

Narboux-Neme, N., et al. Serotonin Transporter Transgenic (SERTcre) Mouse Line Reveals Developmental Targets of (SSRIs). 55(6):994-1005, 2008.

Nebigil, C.G., Choi, D.S., et al., Serotonin 2B receptor is required for heart development. PNAS 97: 9508-9513, 2000.

Nebigil, C.G., Hickel, P., Messaddeq, N., et al. Ablation of 5-HT2B receptors in mice leads to abnormal cardiac structure and function. Circulation 103: 2973-2979, 2001.

Nichols, D.H. Formation and distribution of neural crest mesenchyme to the first pharyngeal arch region of the mouse embryo. Am J Anat 176:221-231, 1986.

Noden, D. The role of the neural crest in patterning of avian cranial skeletal, connective, and muscle tissues. Dev Biol 96: 144-165, 1983.

Noden, D. Craniofacial development: New views on old problems. Anat Rec 208: 1-13, 1984.

Noden, D. Interactions and fates of avian craniofacial mesenchyme. Development 103 (Supp.) 121-140, 1988.

Nugent, E.W., Plauth, W.H., Edwards, J.E., et al. The Pathology, Pathophysiology, Recognition, and Treatment of Congenital Heart disease. McGraw-Hill, NY. 1994.

Opperman, L.A. Cranial sutures as intramembranous bone growth sites. Dev Dyn 219: 472-485, 2000.

Opperman, L.A., Passarelli, R.W., Morgan, E.P., et al. Cranial sutures require tissue interactions with dura mater to resist osseous obliteration in vitro. J Bone Miner Res 10: 1978-1987, 1995.

Opperman, L.A., Chhabra, A., Nolen, A.A., et al. Dura mater maintains rat cranial sutures in vitro by regulating suture cell proliferation and collagen production. J Craniofac Genet Dev Biol 18: 150-158, 1998.

Palen, K., Thorneby, L., Emanuelsson, H. Effects of serotonin and serotonin antagonists on chick embryogenesis. Wilhelm Roux Arch 187: 89-103, 1979.

Park, M. and Moon, R.T. The planar cell polarity gene stbm regulates cell behavior and cell fate in vertebrate embryos. Nat Cell Biol 4: 20-25, 2002.

Paulozzi, L.J. and Lary, J.M. Laterality patterns in infants with external birth defects. Teratology 60: 265-271, 1999.

Pavone L.M. et al. Fate map of Serotonin Transporter Expressing Cells in Developing Mouse Heart. 45(11):689-95, 2007.

Pedersen, L.H., Henriksen, T.B., Vestergaard, M., et al. Selective serotonin reuptake inhibitors in pregnancy and congenital malformations: Population based cohort study. Br Med J 2009;339:b3569 doi.1136/bmj.b3569.

Phillips, H.M. Rhee, H.J., Murdoch, J.N., et al., Disruption of planar cell polarity signaling results in congenital heart defects and cardiomyopathy attributable to early cardiomyocyte disorganization. Circ Res 101: 137-145, 2007.

Poulson, E., Robson, J.M., Sullivan, F.M. Teratogenic effect of 5-hydroxytryptamine in mice. Science 141:717-718, 1963.

Ramsdell, A.F. Left-right asymmetry and congenital cardiac defects: Getting to the heart of the matter in vertebrate left-right axis determination. Dev Biol 288: 1-20, 2005.

Ramsdell, A.F., Bernanke, J. M., Trusk, T.C. Left-right lineage analysis of the embryonic *Xenopus* heart reveals a novel framework linkin congenital vardiac defects and laterality disease. Development 133: 1399-1410, 2006.

Reddy, D.V., Adams, F.H., Baird, C. Teratogenic effects of serotonin. J Pediatr 63: 394-397, 1963.

Reis, M. and Kallen, B. Delivery outcome after maternal use of antidepressant drugs in pregnancy: An update using Swedish data. Psycholog Med doi:10.1017/S0033291709992194, 2010.

Rose, V., Izukawa, T., Moes, C.A.F. Syndromes of asplenia and polysplenia. Br Heart J 37: 840-852, 1975.

Saber, G.M., Parker, S.B., Minkoff, R. Influence of epithelial-mesenchymal interaction on the viability of facial mesenchyme in vitro. Anat Rec 225: 56-66, 1989.

Sadler, T.W. 1979. Culture of early somite mouse embryos during organogenesis. J. Embryol. Exp. Morph., 49:17-25.

Sadler, T.W. Mechanisms of neural tube closure and defets. Mental Tetardation Dev Disabil Res Reviews 4: 247-253, 1998.

Sadler, T.W. Embryology of neural tube development. Am J Med Genet Part C 135C:2-8, 2005.

Sadler, T.W., Burridge, K. and Yonker, J. A potential role for spectrin during neurulation, J Embryol Exp Morph 94: 73-82, 1986.

Sadler, T.W. and Feldkamp, M.L. The embryology of body wall closure: Relevance to gastroschisis and other ventral body wall defects. Am J Med Genet Part C 148C: 180-185, 2008.

Sadler, T.W., Horton, W.E., Warner, C.W. Whole embryo culture: A screening technique for teratogens? Terat. Carcin. Mutagen., 2:243-253, 1982.

Sadler, T.W., Lessard, J.L. Greenberg, D. et al., Actin distribution patterns in the mouse neural tube during neurulation. Science 215: 172-174, 1982.

Sadler, T.W. and Warner, C.W.. 1984. Use of whole embryo culture for evaluating toxicity and teratogenicity. Pharm. Rev. 36:1455-1505.

Sari, Y., Zhou, F.C. Serotonin and its transporter on proliferation of fetal heart cells. Int J Devl Neurosci 21: 417-424, 2003.

Schaerlinger, B., Launay, J.M., Vonesch, J.I., Maroteaux, L. Gain of affinity point mutation in the serotonin receptor gene 5-HT_{2Dro} Accelerates germband extension movements during *Drosophila* gastrulation. Dev Dyn 236: 991-999, 2007.

Schoenwolf G.C. and Alvarez, I.S. Roles of neuroepithelial cell rearrangement and division in shaping of the avian neural plate. Development 106: 427-439, 1989.

Schreiner, C.M., Scott, W.J., Supp, D.M., Potter, S.S. Correlation of forelimb malformation asymmetries with visceral organ situs in the transgenic mouse insertional mutation, legless. Dev Biol 158: 560-562, 1993.

Shenefelt, R.E. Morphogenesis of malformations in hamsters caused by retinoic acid: Relation to dose and stage at treatment. Birth Defects Res Part A 88: 847-862.

Shuey, D.L. Serotonergic mechanisms in normal and abnormal craniofacial morphogenesis. PhD Dissertation, University of North Carolina, Chapel Hill, NC.

Shuey, D. L., Sadler, T.W., Lauder, J.M. Serotonin as a regulator of craniofacial morphogenesis: Site specific malformations following exposure to serotonin uptake inhibitors. Teratology 46: 367-378, 1992.

Shuey, D.L., Yavarone, M., Sadler, T.W., Lauder, J.M. Serotonin and morphogenesis in the cultured mouse embryo. In: *Molecular Aspects of Development and Aging of the Nervous System.* J.M. Lauder, ed. Plenum Press, NY. Pp205-215, 1990.

Simons, M. and Mlodzik, M. Planar cell polarity signaling: From fly development to human disease. Annu Rev Genet 42: 517, 2008.

Sloot, M.N., et al. In Vitro and In Vivo Reproductive Toxicology of 12 Monoaminergic Reuptake Inhibitors - Possible Mechanisms of Infrequent Cardiovascular Anomalies. Reprod Toxicol 28(2):270-82, 2009.

Smith, J.L. and Schoenwolf, G.C. Role of cell cycle in regulating neuroepithelial cell shape during bending of the chick neural plate. Cell Tissue Res 252: 491-500, 1988.

Smith, J.L. and Schoenwolf, G.C. Notochordal induction of cell wedging in the chick neural plate and its role in neural tube formation. J Exp Zool 250: 49-62, 1989.

Smith, J.L. and Schoenwolf, G.C. Neurulation: Coming to closure. Trends Neurosci 20:510-517, 1997.

Solursh, M. and Morriss, J.M. Glycosaminoglycan synthesis in rat embryos during formation of the primary mesenchyme and neural folds. Dev Biol 57: 75-86.

Tam S.S. and Morriss-Kay, G. The development and distribution of cranial neural crest in the rat embryo. Cell Tiss Res 240: 403-416, 1985.

Tamir, H. and Gershon, M.D. Storage of serotonin and serotonin binding protein in synaptic vesicles. J. Neurochem 33: 35-44, 1979.

Ticho, B.S., Goldstein, A.M., Van Praagh, R. Extracardiac anomalies in the heterotaxy syndromes with focus on anomalies of midline-associated structures. Am J Cardiol 85: 729-734, 2000.

Toneby, M. Functional aspects of 5-hydroxytryptamine in early embryogenesis of the sea urchin *Paracentrotus lividus*. Roux's Arch Dev Biol 181: 247-259, 1977).

Topczewski, J., Sepich, D.S., Myers, D.C., et al. The zebrafish glypican knypek controls cell polarity during gastrulation movements of convergent extension. Dev Cell 1: 251-254, 2001.

Torbin, E., Patenaude, A.M., Leclerc, S., et al. Genetic interaction between members of the Vangl family causes neural tube defects in mice. PNAS 105; 3449-3454, 2008.

Ueno, N. and Greene, N.D.E. Planar cell polarity genes and neural tube closure. Birth Defects Research (Part C) 69: 318-324, 2003.

Van Cateren, H., Vandenberghe, J., Marsboom, R. Protective activity of ketanserin against serotonin-induced embryotoxicity and teratogenicity in rats. Drug Dev Res 8: 179-185, 1986.

Van Mierop, L.H.S., Gessner, I.H., Scheibler, G.L. Asplenia and polysplenia syndromes. Birth Defects 8: 36-44, 1972.

Vandenberg, L.N., Lemire, J.M., Levin M. Serotonin has early, cilia independent roles in *Xenopus* left-right patterning. Dis Models Mech 6: 261-268, 2013.

Varjosalo, M. and Taipale, J. Hedgehog: Functions and mechanisms. Genes Dev 22: 2454-2472, 2008.

Veeman, M.T., Slusarski, D.C., Kaykas, A., et al. Zebrafish prickle, a modulator of noncanonical wnt/fr signaling regulates gastrulation movements. Curr Biol 13: 680-685, 2003.

Venkatasubramanian, K. and Zimmerman, E.F. Palate cell motility and substrate interaction. J Craniofac Genet Dev Biol 3: 143-157, 1983.

Waldo, K.L. Hutson, M.R., Stadt, H.A., et al. Cardiac neural crest is necessary for normal addition of the myocardium to the arterial pole from the secondary heart field. Dev Biol 281: 66-77, 2005.

Waldo, K.L., Kumiski, D., Kirby, M.L. Cardiac neural crest is essential for the persistence rather than the formation of an arch artery. Dev Dyn 205: 281-292, 1996.

Waldo, K.L., Kumiski, D.H., Wallis, K.T., et al. Conotruncal myocardium arises from a secondary heart field. Development 128: 3179-3188, 2001.

Wallinford, J.B. and Harland, R.M. Neural tube closure requires Dishevelled-dependent convergent extension of the midline. Development 129: 5815-5825, 2002.

Wallace, J.A. Monoamines in the early chick embryo: Demonstration of serotonin synthesis and the regional distribution of serotonin-concentrating cells during morphogenesis. Am J Anat 165: 261-276, 1982.

Wang, J., Hamblet, N.S., Mark, S., et al. Dishevelled genes mediate a conserved mammalian PCP pathway to regulate convergent extension during neurulation. Development 133: 1767-1778, 2006.

Ware, S.M., Peng, J., Zhu, L., et al. Identification and functional analysis of *ZIC3* mutations in heterotaxy and related congenital heart defects. Am J Hum Genet 74: 93-105, 2004.

Warner, C.W., T.W. Sadler, J. Shocky, and M.K. Smith. A comparison of the in vivo and in vitro response of mammalian embryos to a teratogenic insult. Toxicology, 28:271-282, 1983.

Webster, W.S., Johnston, M.C., Lammer, E.J., Sulik, K.K. Isotretinoin embryopathy and cranial neural crest: An in vivo and in vitro study. J Craniofac Genet 6: 211-222, 1986.

Wee, E.L., Zimmerman, E.F. Palate morphogenesis: IV. Effects of serotonin and its antagonists on rotation in embryo culture. J Embryol Exp Morph 53: 75-90, 1979.

Wilson, J.G. Current status of teratology: General principles and mechanisms. Chapter 2: *Handbook of Teratology*, J.G. Wilson and F.C. Fraser, eds. Pp47-74, 1977. Plenum Press, NY

Wurst, K.E., Poole, C., Ephross, S., Olshan, A.F. First trimester paroxetine use and the prevalence of congenital, specifically cardiac defects: A meta-analysis of epidemiological studies. Birth Defects Res Part A 88: 159-170, 2010.

Yavarone, M.S., Shuey, D.L., Tamir, H., et al. Serotonin and cardiac morphogenesis in the mouse embryo. Teratology 47: 573-584, 1993.

Ybot-Gonzalez, P. Savery, D., Gerrelli, D., et al., Convergent extension, planar cell polarity signaling and initiation of mouse neural tube closure. Development 134: 789-799, 2007.

Yelbuz, T.M., Waldo, K.L., et al., Shortened outflow tract leads to altered cardiac looping after neural crest ablateion. Cieculation 106"504-510, 2002.

Zimmerman, E.F., Wee, E.L. Role of neurotransmitters in palate development. Curr Topics Dev Biol 19:37-63.

Zimmerman, E.F., Wee, E.L., Phillips, N., Roberts, N. Presence of serotonin in the palate just prior to shelve elevation. J Embryol Exp Morphol 64: 233-250, 1981.

Zoloft label

PFI00100000448

A Study of the Reproduction and Fertility of Rats, Protocol #79-375-06, C9-375-06. (PFI00010001464)

PFI00020021200(289)

7/7/1981-(Segment II Rabbits)-Protocol 80107. (PFI00040000579)

Foetotoxicity and Fertility Study in Rats by Oral Administration, Protocol # 80142, (PFI00040000684)

Peri and Post-natal Development Study in Rats by the Oral Route, Protocol #83107 (PFI00040000790)

Peri and Post-natal Development Study in Rats by the Oral Route, Protocol #83112 (PFI00040000841)

Peri and Post-natal Development Study in Rats by the Oral Route, Protocol #85121/85126, (PFI00020041770)

Sertraline Hydrochloride an Exploratory Oral Gavage Reproductive Study in Sprague-Dawley Rats at a Dose of 80mg free base/Kg/day. Protocol #86-375-14 (PFI00040000541)

Rats 3 Month (Oral Gavage) Study, Protocol # 79-375-05

Mice 1 Month Range Finding Feeding, Protocol # 82-375-10

Beagles 7 Day Range Finding, Protocol # 78-375-01

Beagles 14 Day Range Finding, Protocol # 79-375-02

Rats and Mice Acute Toxicity, Protocol # 79-375-07

Rats 6 Week Oral Feed Toleration, Protocol # 82-375-09

Beagles 6 Month, Protocol # 82-375-08

Beagles 1 Year, Protocol #84-375-13

Curriculum Vitae

CURRICULUM VITAE

Personal Information

Name:

Home Address: 16 Cactus Ridge Road

Twin Bridges, MT 59754

Thomas W. Sadler

Business Address: Same

Phone: 406-684-5825(h) 406-596-0198(c)

Email: tsadler@3rivers.net

Education

B.Sc. Wake Forest University, Winston-Salem, North Carolina 1967-1971 Phi Beta Kappa, Magna Cum Laude, Honors in Biology

1971 - 1973 Attended medical school completing the basic sciences and 1 1/2 clinical

rotations, University of Virginia School of Medicine,

Charlottesville, Virginia

Ph.D. University of Virginia 1973-1976 Charlottesville, Virginia

PostDoctorate Postdoctoral Fellow (NIH - Craniofacial Training Grant), Department

1976-1977 of Anatomy, University of Virginia, School of Medicine,

Charlottesville, Virginia

Employment History

2012- present Senior Scholar, Greenwood Genetic Center, Greenwood, SC

2009-present Visiting Professor of Embryology, East Tennessee State University

2007- present Adjunct Professor of Pediatrics, University of Utah

2003- present Consultant: Embryology and Birth Defects Prevention

Case 2:12-cv-02595-CMR Document 30-8 Filed 06/30/15 Page 15 of 25

2006-2008	Adjunct Professor of Embryology, American University of the Caribbean, St Maarten
2005-2007	Visiting Professor in Anatomy and Cell Biology, Miller School of Medicine, University of Miami, Miami, FL
2000-2002	Director, Birth Defects Prevention, Center for Maternal and Infant Health, University of North Carolina, Chapel Hill, North Carolina
1992-2000	Director, Birth Defects Center, University of North Carolina, Chapel Hill, North Carolina
1988-2002	Professor, Department of Cell Biology and Anatomy, School of Medicine, University of North Carolina, Chapel Hill, North Carolina
1982-1988	Associate Professor, Department of Cell Biology and Anatomy, School of Medicine, University of North Carolina, Chapel Hill, North Carolina
1979-1982	Associate Professor Department of Anatomy, University of Cincinnati College of Medicine, Cincinnati, Ohio.
1976-1979	Assistant Professor, Department of Anatomy, School of Medicine, Charlottesville, Virginia

Professional Societies

American Association of Anatomists National Birth Defects Prevention Network American Association for the Advancement of Science

Professional Service

6/10/82 -6/10/89	Associate Editor, Teratology Journal
6/10/87-6/10/89	Publication Committee, Teratology Journal
1984	NIH Site Visit Member, University of New Mexico
10/84, 2/85, and 6/85	NIH Ad Hoc Reviewer, Human Embryology and Development Study Section, NIH/NICHHD
7/15-7/16/85	NIH Reviewer, Special Study Section "Animal Models for Studies of Neural Tube Defects."
10/86 - 6/90	Member, Human Embryology and Development Study Section, NIH/NICHHD
1/15/87	Grant Reviewer, Medical Research Council of Canada

1/30/87	Advisor, National Research Council's Report on, "Research Opportunities in Biology."
3/26-3/28/87	NIH/NICHHD Speaker and participant in workshop to recommend future areas of research on "The Influence of the Embryonic Environment on Early Neural Growth and Differentiation."
3/20/89	NIH/NICHHD Participant in workshop to develop a Request For Applications for research on the origins of neural tube defects.
1989-92	Member, Board of Directors, Chapel Hill Country Club
4/3/90	Member of the Scientific Committee for Organizing the International Conference on "In Vitro Culture of Postimplantation Embryos." Louvain-la- Neuve, Belgium
1991-1995	Member, Board of Directors, United Carolina Bank, Chapel Hill Branch
1991-1994	Council Member, Teratology Society
1993-1998	Editor, Teratology Journal
2/16/94	NIH/NIDA Study Section
3/24/94	NIEHS Study Section, Toxic Substance Effects on Development Gene Expression
1996-2000	Chair, State of North Carolina Task Force for Prevention of Neural Tube Defects
2000-2002	Co-Chair, North Carolina Folic Acid Council
1996-2002	Member, Oral Biology and Medicine Study Section, NIH/NICDDR
7/98-7/99	Technical Advisor, Robert Wood Johnson Blue Ribbon Panel on Folic Acid Prevention of Neural Tube Defects
1999-2003	Member, Executive Board, Eastern Division, March of Dimes
2001-2003	Member, State Executive Board, North Carolina, March of Dimes

Grants Funded

The laboratory was funded continuously from a combination of private and federal sources from 1977 to 2002 when I retired from active research

Committees

1984-1990	Graduate Studies Committee-member
1986-1987	Assistant Director of Graduate Studies Committee
1987-1989	Director of Graduate Studies Committee
1984-1993	Curriculum Committee, Medical School, member
1985-1989	Committee to Develop and Implement a Test Item Management System for the School of Medicine, member
1986-1987	Dean's Task Force Committee on developing a campus wide program in developmental biology, UNC, member
1987-1989	Advisory Committee on Preclinical Medical Student Evaluation, member
1987-1988	Dean's Coordinating Committee for Developmental Biology, member
1987-1988	Steering Committee for the Task Force for Educational Applications in
	Medicine: Computing and Modern Methods of Information Management, member
1989-1990	Departmental Search Committee, Chairman
3/90-7/90	Dean's Ad Hoc Planning Committee, for the University of North Carolina Birth Defects Center, Chairman
1/90-12/90	Dental School Search Committee for Director of the Dental Research Center, member
1990-2003	Dean's Task Force, for the University of North Carolina Birth Defects Center, Chairman
1991-1993	Curriculum Evaluation and Development Committee, member
1991-1993	Committee on Medical Practice in the Twenty-first Century
1992-1996	Committee to Review Appointments and Promotions to Full Professor, member
1993 -1994	Task Force on Fetal Tissue Research, member
1990-2002	First Year Course Directors Committee
1993-1994	Departmental Faculty Search Committee
1994-2003	Advisory Committee, State Birth Defects Registry
1996-1999	Dean's Advisory Council
1999-2003	Steering Committee to Establish a Women's and Children's Health Center

Teaching: Anatomy and Embryology

1976-1979:	Assistant Director and lecturer in Gross Anatomy, Department of Anatomy, University of Virginia, School of Medicine, Charlottesville, Virginia
1979-1982:	Director('81-'82) and lecturer in Gross Anatomy, Department of Anatomy, University of Cincinnati, College of Medicine, Cincinnati, Ohio
1979-1982:	Director and lecturer in graduate Developmental Biology and Embryology Department of Anatomy, University of Cincinnati, College of Medicine, Cincinnati, Ohio
1982-1988:	Lecturer in Gross Anatomy, Department of Cell Biology and Anatomy, University of North Carolina, Chapel Hill, North Carolina

1988-1993:	Director and Lecturer Developmental Biology for Graduate Students, Department of Cell Biology and Anatomy, University of North Carolina, Chapel Hill, North Carolina
1984-2002:	Director and Lecturer in Medical Embryology, Department of Cell Biology and Anatomy, University of North Carolina, Chapel Hill, North Carolina
1992-2002:	Instructor in Gross Anatomy, Department of Cell Biology and Anatomy, University of North Carolina, Chapel Hill, North Carolina
2005-2006	Lecturer in Gross Anatomy, Department of Cell Biology and Anatomy, Miller School of Medicine, University of Miami
2006-2007	Director and Lecturer in Anatomy and Embryology, Department of Cell Biology and Anatomy, Miller School of Medicine, University of Miami
2006-2008	Lecturer in Embryology, American University of the Caribbean, School of Medicine,
2009-present	Lecturer in Embryology, East Tennessee State University, School of Medicine

Teaching: Mini Embryology and Birth Defects Courses

- California Birth Defects Monitoring Program, San Francisco, CA, 3/17-21/03.
- 2. Greenwood Genetic Center, Greenwood, SC, 10/4-11/03
- 3. Utah Birth Defect Network, Salt Lake City UT, 1/26-27/04
- 4. University of California at Northridge, Los Angeles, 1/28-29/05
- 5. California Birth Defects Monitoring Program, Berkley, CA, 5/16-5/17/06
- 6. Centers for Disease Control, Atlanta, GA, 1/29/07-1/31/07
- 7. Greenwood Genetic Center, Greenwood, SC, 1/23-1/25/08
- 8. Department of Genetics, Ottawa, Canada, 6/3-5/09
- 9. Greenwood Genetic Center, Greenwood, SC, 1/27-29/10
- 10. Department of Medical Genetics, University of Calgary, Canada, 10/4-6/10
- 11. Department of Pediatrics, University of Utah, 12/5-12/8/11
- 12. Greenwood Genetics Center, Greenwood, SC, 2/1-2/2/12

Graduate Supervision, Committees:

Member doctoral dissertation committee:

1980-1982	Ronald Nachtman, University of Cincinnati
1983-1986	Lynn Russell, University of North Carolina
1988-1990	Elaine Krochmal, University of North Carolina
1988-1990	Paul Shugrue, University of North Carolina
1988-1993	Jean Thayer, University of North Carolina
1988-1991	Dana Shuey, University of North Carolina
1989-1995	Zhongan Dai, University of North Carolina
1989-1994	Pat Sullivan, University of North Carolina
1989-1994	Steve Parsons, University of North Carolina
1995-1998	Tony Wu, University of North Carolina
1999-2003	Naina Bashin, University of North Carolina

Member and major advisor of doctoral dissertation committee:

1979-1983	Lynn Davis, University of Virginia
1982-1985	Walter Horton, University of Cincinnati
1983-1986	Sidney Hunter, University of North Carolina
1985-1988	Wayne Balkan, University of North Carolina
1986-1989	Lillian Shum, University of North Carolina
1987-1991	Ida Smoak, University of North Carolina
1991-1992	Bruce VandeBerg, University of North Carolina
1991-1994	Karen Augustine, University of North Carolina
1992-1996	Linda Foerst-Potts, University of North Carolina
1996-2000	Melanie Monroe, University of North Carolina
1999-2002	Jennifer Burgoon, University of North Carolina

Other Supervision:

Postdoctoral fellows:

Dorothy Burk, University of Virginia
Jean Hirschekorn, University of Virginia
Christopher Warner, University of North Carolina
Sidney Hunter, University of North Carolina
Xia Ping He, University of North Carolina
John Bauman, University of North Carolina

Publications: Papers(Refereed)

- 1. Sadler, T.W. and D.M. Kochhar. 1975. Teratogenic effects of chlorambucil on in vivo and in vitro organogenesis in mice. Teratology, 12: 71-78.
- 2. Sadler, T.W. and D.M. Kochhar. 1975. Chlorambucil-induced cell death in embryonic mouse limb buds. Tox. Applied Pharmacol., 37: 237-256.

- Sadler, T.W., and D.M. Kochhar. 1976. The effects of chlorambucil on the rates of DNA, RNA, and protein synthesis in mouse embryos grown in whole embryo culture. J. Embryol. Exp. Morph., 36: 273-281.
- Sadler, T.W., and R.R. Cardell. 1977. Ultrastructural alterations in neuroepithelial cells of mouse embryos exposed to cytotoxic doses of hydroxyurea. Anat. Rec., 188:103-124.
- 5. Sadler, T.W. 1978. Distribution of surface coat material on fusing neural folds of mouse embryos during neuralation. Anat. Rec., 191: 345-350.
- 6. Sadler, T.W. 1979. Culture of early somite mouse embryos during organogenesis. J. Embryol. Exp. Morph., 49:17-25.
- Burk, D.T., and T.W. Sadler. 1979. Distribution of surface coat material on the nasal folds of the mouse as demonstrated by concanavalin A binding. Anat. Rec., 193:185-196.
- 8. Sadler, T.W. 1980. Effects of maternal diabetes on early embryogenesis: I. The teratogenic potential of diabetic serum. Teratology, 21: 339-348.
- 9. Sadler, T.W. 1980. Effects of maternal diabetes on early embryogenesis: II. Hyperglycemia-induced exencephaly. Teratology, 21: 349-356.
- 10. Davis, Lynn A., and T.W. Sadler. 1981. Effects of vitamin A on endocardial cushion development. Teratology, 24:139-148.
- Sadler, T.W. and D.A.T. New. 1981. Comparison of head-fold stage mouse embryos cultured in rat serum versus a partially defined medium. J. Embryol. Exp. Morph., 66:109-116.
- 12. Sadler, T.W., W.E. Horton, and C.W. Warner. 1982. Whole embryo culture: A screening technique for teratogens? Terat. Carcin. Mutagen., 2:243-253.
- 13. Sadler, T.W., J.L. Lessard, D. Greenburg, and P. Coughlin. 1982. Actin distribution patterns during neurulation. Science, 215:172-174.
- 14. Horton W.E. Jr. and T.W. Sadler. 1983. Effects of maternal diabetes on early embryogenesis: Alterations in morphogenesis produced by the ketone body, ß-hydroxybutyrate. Diabetes, 32:610-616.
- 15. Burk, Dorothy and T.W. Sadler. 1983. Morphogenesis of median facial clefts in mice treated with diazo-oxo-norleucinc(DON). Teratology, 27:385-394.
- 16. Sadler, T.W. and W.E. Horton, Jr. 1983. Effects of maternal diabetes on early embryogenesis: The role of insulin and insulin therapy. Diabetes, 32:1070-1075.
- 17. Warner, C.W., T.W. Sadler, J. Shocky, and M.K. Smith. 1983. A comparison of the in vivo and in vitro response of mammalian embryos to a teratogenic insult. Toxicology, 28:271-282.

- 18. Warner, C.W., T.W. Sadler, S.A. Tulis, and M. Kate Smith. 1984. Zinc amelioration of cadmium-induced teratogenesis in vitro. Teratology, 30:47-53.
- 19. Sadler, T.W. and C.W. Warner. 1984. Use of whole embryo culture for evaluating toxicity and teratogenicity. Pharm. Rev. 36:1455-1505.
- 20. Horton, W.E., Jr. and T.W. Sadler. 1985. Mitochondrial alterations in embryos exposed to β-hydroxybutyrate in whole embryo culture. Anat. Rec., 213:94-101.
- 21. Horton, W.E., Jr., T.W. Sadler, and E.S. Hunter, III. 1985. Effects of hyperketonemia on mouse embryonic and fetal glucose metabolism in vitro. Teratology, 31:227-233.
- 22. Sadler, T.W., K. Burridge, and J.V. Yonker. 1986. Spectrin patterns in the mouse neural tube during neurulation. J. Embryol. Exp. Morph., 94:73-82.
- Sadler, T.W., L.S. Phillips, W. Balkan, and S. Goldstein. 1986. Somatomedin inhibitors from diabetic rat serum alter growth and development of mouse embryos in culture. Diabetes, 35:861-865.
- 24. Hunter, E.S., III and T.W. Sadler. 1987. Metabolism of D- and DL-betahydroxybutyrate by mouse embryos in vitro. Metabolism, 36:558-561.
- 25. Sadler, T.W. and E.S. Hunter, III. 1987. Hypoglycemia: How little is too much for the embryo? Am. J. Ob. Gyn., 157:190-193.
- 26. Hunter, E.S., III and T.W. Sadler. 1987. Teratogenicity of the D-isomer of the ketone body β-hydroxybutyrate. Teratology, 36:259-264.
- Hunter, E.S. III, T.W. Sadler, and R.E. Wynn. 1987. A potential mechanism of DL-beta-hydroxybutyrate-induced malformations in mouse embryos. Am. J. Physiol., 253:E72-E80.
- Smith, E.P., T.W. Sadler, and A.J. D'Ercole. 1987. Somatomedins/insulinlike growth factors, their receptors and binding proteins are present during mouse embryogenesis. Development, 101:73-82.
- 29. Hunter, E.S., III, Wayne Balkan, and T.W. Sadler. 1987. Improved development of presomite mouse embryos in whole embryo culture. J. Exp. Zool., 245:264-269.
- Balkan, Wayne, L.S. Phillips, S. Goldstein, and T.W. Sadler. 1987. A potential role of somatomedin inhibitors in the production of the diabetic embryopathy. Teratology, 37:271-282.
- 31. Lauder, J.M., H. Tamir, and T.W. Sadler. 1988. Serotonin and morphogenesis I. Sites of serotonin uptake and binding protein immunoreactivity in the midgestation mouse embryo. Development, 102:709-720.
- 32. Sadler, T.W., E.S. Hunter, III, Wayne Balkan, L. Shum, W.E. Horton, Jr., and R.E. Wynn. 1988. Effects of maternal diabetes on embryogenesis. Am. J. Perinatol., 5:319-326.

- Balkan, Wayne, Raoul P. Rooman, Amy Hurst-Evans, L.S. Phillips, S. Goldstein, Marc V.L. Du Caju, and T.W. Sadler. 1988. Somatomedin inhibitors from human serum produce abnormalities in mouse embryos in culture. Teratology, 38:79-86.
- 34. Shum, L. and T.W. Sadler. 1988. Embryonic catch-up growth after exposure to the ketone body D,L,-beta-hydroxybutyrate in vitro. Teratology, 38:369-379.
- Sadler, T.W., E.S. Hunter, III, R.E. Wynn, and L.S. Phillips. 1989. Evidence for a multifactorial origin of diabetes induced embryopathies. Diabetes, 38:70-74
- Balkan, Wayne, L.S. Phillips, S. Goldstein, and T.W. Sadler. 1989. Role of the mouse visceral yolk sac in nutrition: Inhibition by a somatomedin inhibitor. J. Exp. Zool., 249:36-40.
- Hunter, E.S., III and T.W. Sadler. 1989. Fuel mediated teratogenesis: The biochemical effects of hypoglycemia during neurulation in mouse embryos. Am. J. Physiol. 257:E269-E276.
- Smoak, I. and T.W. Sadler. 1990. Embryopathic effects of short-term exposure to hypoglycemia in mouse embryos in vitro. Am J Obstet. Gynecol., 163:619-624.
- 39. Shum, L. and T.W. Sadler. 1990. A Biochemical basis for D,L,-beta-hydroxybutyrate induced teratogenesis. Teratology, 42: 553-564.
- 40. Denno, K.M. and T. W. Sadler. 1990. Phenylketonic induced embryopathies in mouse embryos in culture. Teratology, 42: 565-570.
- Kavlock, Robert J., T.W. Sadler, et al. 1991. Activity profiles of developmental toxicity. Teratology, 43:159-186.
- 42. Hunter, E.S., III, L.S. Phillips, S. Goldstein, and T.W. Sadler. 1991. Altered visceral yolk sac function produced by a low molecular weight somatomedin inhibitor. Teratology, 43: 331-340.
- 43. Smoak, I.W. and T.W. Sadler. 1991. Hypothermia: Teratogenic and protective effects on the development of mouse embryos in vitro. Teratology, 43:635-641.
- Shum, L. and T.W. Sadler. 1991. Recovery by mouse embryos following a teratogenic exposure to ketosis. Diabetologia, 34: 289-295.
- Hunter, E.S., III and T.W. Sadler. 1992. The role of the visceral yolk sac in hyperglycemia-induced embryopathies in mouse embryos in vitro. Teratology, 45:195-203.
- 46. Shuey, D.L., T.W. Sadler, and J.M. Lauder. 1992. Serotonin as a regulator of craniofacial morphogenesis: Site specific malformations following exposure to serotonin uptake inhibitors. Teratology, 46:367-378.

- Shuey, D.L., T.W. Sadler, H. Tamir, and J.M. Lauder. 1993. Serotonin and morphogenesis: Transient expression of serotonin uptake and binding protein during craniofacial morphogenesis in the mouse. Anat. Embryol., 187:75-85.
- 48. Yavarone, M.S., D.L. Shuey, H. Tamir, T.W. Sadler, and J.M. Lauder. 1993. Serotonin and cardiac morphogenesis in the mouse embryo. Teratology, 47:573-584.
- 49. Yavarone, MS., D.L. Shuey, T.W. Sadler, and J.M. Lauder. 1993. Serotonin uptake in the ectoplacental cone and placenta of the mouse. Placenta, 14:149-161.
- Augustine, K., E.T. Liu and T.W. Sadler. 1993. Antisense attenuation of Wnt-1 and Wnt-3a expression in whole embryo culture reveals roles for these genes in craniofacial, spinal cord, and cardiac morphogenesis. Development Genetics, 14:500-520.
- 51. Denno, K.M. and T.W. Sadler. 1994. The effects of the biguanide class of oral hypoglycemic agents on mouse embryogenesis. Teratology, 49(4):260-266.
- 52. Hunter, E.S., III, J.A. Tugman, K.K. Sulik, and T.W. Sadler. 1994. Effects of short term exposure to ethanol on mouse embryos in vitro. Toxic in Vitro, 8:413-421.
- 53. Buchanan, T.A., K.M. Denno, G.F. Sipos, and T.W. Sadler. 1994. Diabetic Teratogenesis: In vitro evidence for a multifactorial etiology with little contribution from glucose per se. Diabetes, 43:656-660.
- 54. Augustine, K.A., E.T. Liu, and T.W. Sadler. 1995. Interactions of Wnt-1 and Wnt-3a are essential for neural tube patterning. Teratology, 51:107-119.
- 55. Sadler, T.W., E.T. Liu, and K.A Augustine. 1995. Antisense targeting of Engrailed-1 causes abnormal axis formation in mouse embryos. Teratology, 51: 292-299.
- Augustine, K.A., E.T. Liu, and T.W. Sadler. 1995. Antisense inhibition of Engrailed genes in mouse embryos reveals roles for these genes in craniofacial and neural tube development. Teratology, 51: 300-310.
- Hunter, E.S. III, K.K. Sulik, L.E. Kotch, R.C. Cefalo, and T.W. Sadler. 1995. Effects of cocaine administration during early organogenesis on prenatal development and postnatal growth in mice. Fundamental Applied Toxicol., 28:177-186.
- Perfetti, R., M. Raygada, Y. Wang, M.E. Zenilman, J.M. Egan, K.M. Denno, T.W. Sadler, and A.R. Shuldiner. 1996. Reg and insulin genes are expressed in prepancreatic mouse embryos. J. Molecular Endocrinol., 17 (1): 79-88.
- 59. Peet, J.H. and T.W. Sadler. 1996. Mouse embryonic cardiac metabolism under euglycemic and hypoglycemic conditions. Teratology 54: 20-26.
- L. Foerst-Potts and T.W. Sadler. 1997. Disruption of Msx-1 and Msx-2 Reveals
 roles for these genes in craniofacial, eye, and axial development. Dev. Dyn.
 209: 70-84

- Sadler, T.W. 1997. Mouse embryos in culture. Models for diabetes-induced embryopathies and targeted gene disruptions. Intn'l J. Dev. Biol. 41: 291-298.
- 62. Sadler, T.W. 2000. Susceptible periods during embryogenesis of the heart and endocrine glands. Environmental Health Perspectives 108: 555-562.
- MC Fisher, SH Zeisel, MH Mar and TW Sadler. 2001. Inhibitors of choline uptake and metabolism cause developmental anomalies in neurulating mouse embryos. Teratology 64: 114-122.
- MC Fisher, SH Zeisel, MH Mar and TW Sadler. 2001. Perturbations in choline metabolism during gastrulation and neurulation cause neural tube defects in cultured mouse embryos. FASEB J 10.1096/fj.01-0564fji.
- 65. J Burgoon, I Selhub, M Nadeau and TW Sadler. 2002. Investigation of the effects of folate deficiency on embryonic development through the establishment of a folate deficient mouse model. Teratology 65: 219-227.
- 66. TW Sadler, AH Merrill, VL Stevens, MC Sullards, E Wang and P Wang. 2002. Prevention of fumonisin B1 induce neural tube defects by folic acid. Teratology 66: 169-176.
- 67. Sadler, T.W. 2005. The Embryology of Neural Tube Development. Am. J. Med. Genet. 135C: 2-8.
- Feldcamp, M. J. Carey, and T.W. Sadler. 2007. Development of gastroschisis. Am. J. Med. Genet. 143A: 639-652.
- Sadler, T. W. and M. J. Feldkamp. 2008. The embryology of body wall closure: Relevance to gastroschisis and other ventral body wall defects. Am. J. Med. Genet. 148C: 180-185.
- Sadler, T.W. and S.J. Rasmussen 2010. Examining the evidence for vascular pathogenesis of selected birth defects. Am. J. Med. Genet. PartA 152A: 2426-2436.
- Sadler, T.W. 2010. The embryological origin of ventral body wall defects. Sem. Ped. Surg. 19:209-214.
- Sadler, T.W. 2011. Selective Serotonin Reuptake Inhibitors (SSRIs) and Heart Defects: Potential Mechanisms for the Observed Associations. Reprod. Toxicol. 32: 484-489.

Publications: (Non-refereed)

I. Sadler, T.W. 1980. Effects of maternal diabetes on early embryogenesis. Guidelines to Metabolic Therapy, 8:339-348.

- Langman, Jan, T.W. Sadler, D.T. Burk, and J.D. Gaare. 1980. Examination of normal and abnormal lip development in mouse embryos using in vivo and in vitro techniques. Acta Morphologica Acad. Sci. Hungary, 28:125-133.
- Sadler, T.W., Jan Langman, and Dorothy Burk. 1980. Mammalian embryos in culture: A
 unique approach to craniofacial research. NIH International Symposium Proceedings,
 Current Research Trends in Prenatal Craniofacial Development. R.M. Pratt and
 R.L. Christiansen, eds. Elsevier/North Holland, N.Y. pp 137-148.
- Davis, Lynn A., T.W. Sadler, and Jan Langman. 1982. In vitro development of the heart under the influence of retinoic acid. 5th Symposium on Prenatal Development: "Applicability of culture techniques for studies on prenatal differentiation and toxicity." D. Neubert and H.J. Merker, eds. Georg Theime Publishers, Stuttgart. pp 129-138.
- Sadler, T.W. 1981. "Congenital Malformations". Chapter 8, Jan Langman's Medical Embryology. 4th ed., Williams and Wilkins Company, Baltimore, Md.
- Shuey, D.L., M. Yavarrone, T.W. Sadler, and J.M. Lauder. 1990. Serotonin and Morphogenesis in the Cultured Mouse Embryo. In: Molecular Aspects of Development and Aging of the Nervous System. J.M. Lauder et al., eds. Plenum Press.
- Sadler, T.W. 1990. Diabetes and Birth Defects. Diabetes Spectrum Review. Boyd Metzger and T. Buchanan, eds.
- Sadler, T.W. 1990. University Scholars Benefit Colleges. Letter to the Editor, Chapel Hill Newspaper.
- Sadler, T.W. 1991. Mechanisms of fetal embryopathy: Studies with rodent embryos in culture. H. Rifkin, J.A. Colwell, and 5.1. Taylor, eds. Elsevier Science Publishers B.V. pp 51-54.
- Sadler, T.W. 1992. Organogenesis and Central Nervous System Development. In: Fetal Tissue Transplants in Medicine. R.G. Edwards, ed. Cambridge University Press, Cambridge, UK, pp 51-76.
- Sadler, T.W. 1993. Whole Embryo Culture: Organogenesis of Rodent Embryos In Vitro. In: Methods In Toxicology: In Vitro Biological Models. Tyson and Frazier, eds. Academic Press, San Diego, pp 420-430.
- Sadler, T.W. 1996. Embryology and Teratology. In: Clinical Decisions in Reproductive Genetics. Jeffrey A. Kuller, Nancy C. Chescheir, and Robert C. Cefalo, eds. Mosby Year Book, Inc. St. Louis, pp 218-225.
- Sadler, T.W., E.T. Liu, and K.A. Augustine. 1997. Targeted gene disruptions as models
 of abnormal development. In: Handbook of Experimental Pharmacology: Drug
 Toxicity in Embryonic Development. R.J. Kavlock and G. Daston, eds. SpringerVerlag, Heidelberg, pp 325-340..